

**ABSTRACT OF THE DISCLOSURE**

The present invention relates to the use of a class of genes called oil  
5 body protein genes that have unique features. The discovery of these features  
allowed the invention of methods for the production of recombinant proteins  
wherein a protein of interest can be easily separated from other host cell  
components. The invention is further exemplified by methods for exploitation  
of the unique characteristics of the oil body proteins and oil body genes for  
10 expression of polypeptides of interest in many organisms, particularly plant  
seeds. Said polypeptides may include but are not limited to: seed storage  
proteins, enzymes, bioactive peptides, antibodies and the like. The invention  
can also be modified to recover recombinant polypeptides fused to oil body  
proteins from non-plant host cells. Additionally the invention provides a  
15 method of using recombinant proteins associated with seed oil bodies released  
during seed germination for expression of polypeptides that afford protection to  
seedlings from pathogens. Finally, the persistent association of oil body  
proteins with the oil body can be further utilized to develop a biological means  
to create novel immobilized enzymes useful for bioconversion of substrates.